

ABSTRACT OF THE DISCLOSURE

A wireless instrumentation system enables a plurality of low power wireless transceivers to transmit measurement data from a plurality of remote station sensors to a central data station accurately and reliably. The system employs a relay based communications scheme where remote stations that cannot communicate directly with the central station due to interference, poor signal strength, etc., are instructed to communicate with other of the remote stations that act as relays to the central station.

A unique power management scheme is also employed to minimize power usage at each remote station and thereby maximize battery life. Each of the remote stations

preferably employs a modular design to facilitate easy reconfiguration of the stations as required.